

REMARKS

This is a Response to the Office Action dated April 30, 2003. In the Office Action, claims 83 and 84 were objected to because of certain informalities.

Claims 85, 88, 90, and 91 were rejected under 35 U.S.C. 102(b) as being anticipated by Dolowy et al. (U.S. Patent No. 4,259,112). Claims 72-94 were rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett et al. (U.S. Patent No. 5,133,057) in view of Dolowy et al.

Within this Response, claims 83 and 84 have been amended. Claims 83 and 84 were amended to correct minor informalities. In making the aforementioned amendments, care was taken to insure that no new matter was added.

Claim Objections

Claims 83 and 84 were objected to because of certain informalities. Claims 83 and 84 are amended by this response to recite "material" instead of "method".

Claim Rejections**35 U.S.C. § 102(b)**

Claims 85, 88, 90, and 91 were rejected under 35 U.S.C. 102(b) as being anticipated by Dolowy et al. (U.S. Patent No. 4,259,112).

Regarding claim 85 and as recited therein, Dolowy fails to disclose "impregnating the graphite with a molten polymer containing a high temperature alloy powder." Dolowy discloses in the Abstract that "composite materials are prepared by mixing metal powder and dissimilar reinforcement materials in a fluid binder to form a slurry. The slurry is spread to form thin sheets which are air dried. The sheets are stacked to a predetermined thickness and placed in a vacuum retort where binder is removed at elevated temperature and reduced pressure. The resulting composite material is consolidated and bonded at elevated temperature and pressure." Applicant therefore queries the Examiner where in Dolowy is disclosed or suggested "impregnating the graphite with a molten polymer containing a high temperature alloy powder" as claimed

in claim 85. Applicant submits that claim 85 is patentable over the prior art of record because this limitation is apparently not taught or suggested by Dolowy. Claims 86-94 are patentable at least by virtue of their dependence from claim 85.

35 U.S.C. § 103(a)

Claims 72-94 were rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett et al. (U.S. Patent No. 5,133,057) in view of Dolowy et al.

Regarding claim 72, Corbett and Dolowy neither alone nor in combination disclose that which is claimed. Corbett fails to disclose "impregnating the graphite with a polymer containing a metal powder" or "drying the graphite" as recited in claim 72. Dolowy fails to disclose "impregnating the graphite with a polymer containing a metal powder" as recited in claim 72. Dolowy also fails to disclose "passing the graphite through a molten bath of metal alloy that is at a temperature to carburise the polymer and so form the composite material" also recited in claim 72. As both references fail to disclose or suggest the step of "impregnating the graphite with a polymer containing a metal powder" the two references do not render claim 72 unpatentable.

Further, applicant submits that it would not have been obvious to combine the references in the manner contemplated by the Examiner. There is no motivation to combine Corbett and Dolowy. Corbett discloses that "a metal matrix composite having a reinforcing phase of three-dimensionally oriented short inorganic fibers or whiskers according to the present invention can be formed by immersing a shaped body or preform as described above in molten metal, allowing the molten metal to infiltrate the fiber preform, and cooling the metal to incorporate the preform. The body can be slowly immersed to remove air or immersed under vacuum to avoid problems such as entrapped air." (col 17, lines 15-23) As stated above, Dolowy discloses that "composite materials are prepared by mixing metal powder and dissimilar reinforcement materials in a fluid binder to form a slurry. The slurry is spread to form thin sheets which are air dried. The sheets are stacked to a predetermined thickness and placed in a vacuum retort where binder is removed at elevated temperature and reduced pressure. The resulting composite material is consolidated and bonded at elevated temperature and pressure." (Abstract) It would not have been obvious

to combine the cited references since the composite metals of each reference are formed in very different manners.

In fact, Corbett teaches away from the process disclosed in Dolowy. Corbett, in detailing the prior art indicates that the prior art teaches the utilization of "... paper making technology in which the inorganic fibers or whiskers are suspended as a slurry and collected as a mat by vacuum filtration." (col 1, lines 60-64) This is what Dolowy teaches. Corbett distinguishes itself from the method disclosed in the prior art and thus Dolowy by stating that the shapes produced using the methods of the prior art such as Dolowy "are limited to relatively simple shapes which are then subjected to expensive and time consuming machining to produce more complex shapes." (col 2, lines 9-12) This means that the combination of Dolowy and Corbett is not only not suggested by the art but if nonetheless made, does not render the steps of claim 72.

Again, as stated above, Dolowy does not disclose "impregnating the graphite with a polymer containing a metal powder." However, even if we assumed that Dolowy disclosed "impregnating the graphite with a polymer containing a metal powder" and "drying the graphite" as recited in claim 72, the combination with Corbett negates these steps. Corbett teaches the use of shaped bodies or preforms. Corbett teaches away from "impregnating the graphite with a polymer containing a metal powder" and "drying the graphite" as recited in claim 72 because he does not need these steps. Instead he uses a preform. Thus if one were to combine Corbett and Dolowy, the claim would read : providing a preform, passing the preform through a molten bath, and exerting pressure. That is not what is claimed. Thus the combination of Dolowy and Corbett while clearly not suggested by the references, if combined would not teach the present invention as claimed. Therefore, it is respectfully submitted that claim 72 is allowable over the prior art of record. Claims 73-84 are allowable at least by virtue of their dependence from claim 72.

Regarding claim 85 Corbett and Dolowy neither alone nor in combination disclose that which is claimed. Both references fail to disclose "impregnating the graphite with a molten polymer containing a high temperature alloy powder." In addition, as stated above, both references utilize distinctly different methods to produce a composite material. Therefore, it is respectfully submitted that claim

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85 is allowable over the prior art of record. Claims 86-94 are allowable at least by virtue of their dependence from claim 85.

Conclusion

Hence, the Applicant respectfully submits that all claims of the application (72-94) are patentable over the cited references for the reasons given above. In view of the above, allowance of the pending claims are respectfully solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

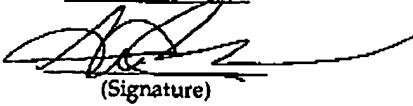
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